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AUTHOR SHAW, FAITH L.; UHL, NORMAN P.
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ABSTRACT

THIS STUDY INVESTIGATES THE EFFECT OF SOCIO-ECONOMIC LEVEL (LOWER AND UPPER-MIDDLE), RACE (BLACK AND WHITE), AND SEX ON LOCUS OF CONTROL OF REINFORCEMENT SCORES, AND THE RELATIONSHIP BETWEEN THE LATTER SCORES AND READING ACHIEVEMENT IN A SAMPLE OF 211 SECOND GRADE CHILDREN. A STRATIFIED RANDOM SAMPLING TECHNIQUE INSURED ADEQUATE LEVELS OF EACH DEPENDENT VARIABLE. ADMINISTERED WITHIN A TWO-MONTH PERIOD WERE: THE PARAGRAPH MEANING AND WORD READING SECTIONS OF THE PRIMARY I AND PRIMARY II LEVELS OF THE 1964 STANFORD ACHIEVEMENT TEST; FOUR SUBTESTS FROM CATTELL'S CULTURE FAIR INTELLIGENCE TEST; AND THE BIALER-CROMWELL CHILDREN'S LOCUS OF CONTROL SCALE. ANALYSIS USING A 2X2X2 FACTORIAL DESIGN FOUND THAT, AMONG THE INDEPENDENT VARIABLES, ONLY THE MAIN EFFECT OF SOCIOECONOMIC LEVEL (SEL) AND THE INTERACTION OF SEL AND RACE EFFECTS ON LOCUS OF CONTROL SCORES WERE SIGNIFICANT. THE SOLE SIGNIFICANT RELATIONSHIP BETWEEN LOCUS OF CONTROL AND READING SCORES WAS THAT WHITE UPPER-MIDDLE SEL SUBJECTS HAVING HIGHER EXTERNAL SCORES HAD LOWER READING SCORES. INTELLIGENCE QUOTIENT WAS RELATED TO READING, BUT NOT TO EXTERNAL SCORES IN BOTH SEL GROUPS. THE LOW RELIABILITY OBTAINED USING THE LOCUS OF CONTROL SCALE INDICATES NEED FOR FURTHER DEVELOPMENT OF THIS SCALE. (JM)

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RELATIONSHIP BETWEEN LOCUS OF CONTROL SCORES AND READING ACHIEVEMENT OF BLACK AND WHITE SECOND GRADE CHILDREN FROM TWO SOCIO-ECONOMIC LEVELS

by

Ralph L. Shaw and Norman P. Uhl

Emory University

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Introduction

The performance of the child in the classroom has been of great concern to educators and psychologists for many years. Many studies examining the relationship of IQ, sex, race, and socio-economic level variables to classroom achievement have been performed. With increased emphasis on individualized instruction, the consideration of personality factors has gained importance. This study is directed toward investigating the relationship between academic achievement, as measured by reading scores, and one personality variable: locus of control of reinforcement.

Locus of control of reinforcement can be of two types: internal control and external control. Internal control of reinforcement refers to the belief that the reinforcements a person receives are a result of his own purposeful action. If the individual believes that the reinforcements he receives are due to some force beyond his control, such as luck, or fate, then he is said to have an external locus of control.

Lefcourt (1966b), in his review of the literature, relates this personality construct to the concepts of competence and effectance, helplessness and hopelessness, striving toward mastery, and alienation. The social learning theory of Rotter (1954) looks upon this construct as a generalized expectancy concerning reinforcements.

Social class and ethnic membership have been shown to be important variables in determining the locus of control of reinforcement. Several studies, such as Battle and Rotter (1963) and Lefcourt and Ladwig (1965), found that blacks score higher on external control than whites and that

lower class individuals express greater externality than middle class persons.

The relationship of IQ to locus of control of reinforcement is not as clear. Studies by Bialer (1961), using elementary school subjects, and Crandall, Katkovsky, and Crandall (1965), using elementary and high school students, have shown a positive relation between IQ and locus of control, with higher internal control scores being associated with the higher IQ levels. Battle and Rotter (1963) found that black, 11 to 13 year old students tended to have higher external scores regardless of IQ status, when compared to white students.

Conflicting evidence has been found regarding the relation of sex to locus of control of reinforcement. Girls were shown to be more likely to give responses indicating internal control than were boys in one study (Crandall, Katkovsky, and Crandall, 1965), while no relation between locus of control and sex was found in a study by Battle and Rotter (1963).

Few studies have investigated the relationship between locus of control scores and school achievement. Crandall, Katkovsky, and Crandall (1965) found that their scale predicted differently for the two sexes at different age levels.

This study will examine the effect of socio-economic level (SEL), (low and upper-middle), race (black and white), and sex of second graders on locus of control scores and also investigate the relationship between locus of control scores and reading achievement.

It is predicted that:

1) low SEL Ss have higher external scores than upper-middle SEL Ss.

2) blacks have higher external scores than whites.

3) there is no sex difference on locus of control scores.

4) locus of control scores are inversely related to reading scores; the higher the external scores, the poorer the reading scores.

5) locus of control scores are not related to intelligence scores.

Method

Subjects

The subjects in this study participated in a larger study. They were 211 second grade public school children from a large metropolitan area. The Ss were drawn from 18 classrooms in six elementary schools. Three of the schools were in upper-middle SEL areas and three were in low SEL areas. In each SEL area, two of the schools were predominantly white and one school was predominantly black. Careful attention was given to the selection of the schools in order to obtain homogeneity of socio-economic level within each school.

A stratified random sampling technique was employed to insure adequate numbers of males and females, blacks and whites, and low and upper-middle SEL Ss. The mean age of the Ss at the time of testing was 8.0 years, with a SD of .66 years. The sample was composed of 104 low SEL and 107 upper-middle SEL Ss, 69 blacks and 142 whites,

and 107 males and 104 females.

Instruments

The paragraph meaning and word reading sections of the Primary I and Primary II levels of the 1964 edition of the Stanford Achievement Test, Form W, were administered to obtain a measure of reading achievement.

Four subtests from Cattell's Culture Fair Intelligence Test, Scale I, were used to measure IQ: Substitution, Classification, Mazes, and Similarities. These scales were used for practical reasons, in addition to Cattell's (1962) statement that the use of these subtests results in a more fully culture fair IQ.

The Bialer-Cromwell Children's Locus of Control Scale was used to measure degree of internal-external control of the Ss. This test consists of 23 items worded so that a "yes" or a "no" response is required from the S for each item. A "yes" response indicates internal control on some items and external control on other items. The sum of the external responses equals the external control score.

Procedure

All tests were administered within a two month period.

The Stanford Achievement Tests were group administered according to the instructions contained in the Manual.

The Classification subtest of Cattell's Culture Fair Intelligence Test and the Bialer-Cromwell Children's Locus of Control Scale were individually administered according to the instructions in their Manuals, each taking approximately ten and four minutes, respectively,

to administer.

The remaining three subtests of the Culture Fair Intelligence Test (Substitution, Mazes, and Similarities) were administered to groups of no more than 15 students using the instructions given in the Manual.

Results

A Kuder-Richardson reliability of .95 was obtained for the reading score. Test-retest reliability of .85 was obtained with the Culture Fair Intelligence Test, with approximately one week separation between tests. A Kuder-Richardson reliability of .33 was found for the Children's Locus of Control Scale.

An analysis of variance using a 2x2x2 factorial design was employed to investigate the effect of SEL, race, and sex on locus of control scores. The main effect of SEL was found to be significant ($p<.05$) in addition to the interaction of SEL and race ($p<.05$). No other main effects or interactions were significant at the .05 level.

The significant SEL x race interaction was investigated by comparing the means of the black low SEL group, the white low SEL group, the black upper-middle SEL group, and the white upper-middle SEL group. It was found that the white upper-middle SEL group had lower external scores than the other three groups and that there was no difference in the means of these latter three groups. Thus, the predictions that low SEL Ss have higher external scores than upper-middle SEL Ss and that there are no sex differences are

supported. The prediction that blacks have higher external scores than whites is only true of the upper-middle SEL Ss.

In only one of the four groups studied (low SEL black, low SEL white, upper-middle SEL black, and upper-middle SEL white), was there a significant relationship between locus of control and success in reading. In the white upper-middle SEL group it was found that the higher the external score obtained by the student, the lower would be his score in reading ($r = -.31$, $p<.01$). In the other three groups, however, the correlations ranged from .09 to .17 in magnitude, all not significant at the .05 level.

IQ was related to reading in both SEL groups ($r = .47$ and .23 for upper-middle and low SEL, respectively), but IQ was not related to external scores. When reading and external scores were correlated with IQ partialed out, no change in the relationships was observed.

Discussion

The low reliability of .33 obtained using the Children's Locus of Control Scale was a surprise. This scale is one of the two most frequently used instruments to measure internality - externality in children. In ~~renewing~~ reviewing the published studies which have made use of this instrument, the authors could not find one which reported reliability. However, in another paper to be presented at this conference, Shaffer, Strickland, and Uhl (1969) report a reliability of .49 for this scale using fourth grade Ss from two SELs comparable to the one used in the present study. These results indicate need for further work on this scale.

The results support predictions 1, 3, and 5, namely, low SEL Ss were found to have higher external scores than upper-middle SEL Ss, no sex differences on locus of control scores were found, and locus of control scores were not related to intelligence scores.

Predictions 2 and 4 were partially supported. It was found that blacks have higher external scores than whites, but only in the upper-middle SEL group. It was also found that locus of control scores were inversely related to reading scores, but only in the white upper-middle SEL group.

The finding that low SEL Ss have higher external scores agrees with the results of other studies (Battle and Rotter, 1963; Crandall, Katkovsky, and Crandall, 1965). The low SEL groups in the present study and in the studies cited were found to score significantly higher on external control than the middle class groups. Battle and Rotter (1963) maintain that there is a lesser belief in self-responsibility among lower class Ss than is found in the upper class Ss, while others (Crandall, Katkovsky, and Crandall, 1965) state that there is less opportunity to manipulate the environment successfully due to lack of education, money, and status among the lower class groups. Lefcourt (1966b, p. 212) says, "Perhaps the apathy and what is often described as lower-class lack of motivation may be explained as a result of the disbelief that effort pays off."

Battle and Rotter (1963) found that low SEL blacks rated highest on external control of the four groups studied (low SEL blacks, low SEL whites, middle SEL blacks, and middle SEL whites), while the middle

class group rated highest on internal control of the four groups. This relationship between race and external scores was not found among the low SEL groups in this study, but there was a significant relation found between these two variables among the upper-middle SEL groups, with the blacks more external than the whites.

Similar to Battle and Rotter's (1963) findings, but contrary to Crandall, Katkovsky, and Crandall's (1965) findings, there was no relation between IQ or sex and locus of control found in this study.

The finding in this study that locus of control was significantly related to success in reading among only one of the four groups studied (the white upper-middle SEL group) is one which needs to be examined further. It is postulated that in the upper-middle SEL home and in the school the importance of reading is stressed repeatedly to the young child. It is very early put into their value system with a high positive valence. Lefcourt (1966a) postulates that Ss with internal locus of control are able to see reward contingencies and to react to them in an appropriate manner, while external Ss fail to recognize the reward contingencies available to them. Thus, the child with an external locus of control may well have a high value placed on success in reading, but may not be able to perceive reward contingencies and thus may fail to achieve success in reading.

In the other three groups studied, reading may not be stressed so highly in the home, even though it may be stressed in the school, so that the Ss fail to incorporate the importance of reading into their value systems. With no particular value assigned to the importance of

success in reading, whether the S is internal or external in relation to his locus of control would have little bearing on his achievement, which is what was found in this study.

If this interpretation of the findings is correct, it suggests the importance of parental involvement for the values of the school. With more active support for the school's goals from the parents, the positive incorporation of the school's goals into the value system of the child should be facilitated.

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